

REMARKS/ARGUMENTS

Claims 1-12 and 14-40 are pending in this application. Claims 1, 2, 14, 15, 23, and 32 are independent. By this Amendment, claims 1-2, 14-16, 18, 23, 26-35, and 37-40 are amended. No new matter has been added.

REJECTIONS UNDER 35 U.S.C. § 103(A)

On pages 4-8, the Office Action rejects claims 1-12 and 14-22 under 35 U.S.C. § 103(a) as allegedly unpatentable over EP 875,813 to Ishiguro et al (hereinafter “Ishiguro”) in view of EP 952,733 to Paskins et al (hereinafter “Paskins”), further in view of U.S. Patent Application No. 2003/0081391 to Mowery et al (hereinafter “Mowery”), and still further in view of U.S. Patent No. 6,141,324 to Abbott et al (hereinafter “Abbott”). On pages 8-12, the Office Action rejects claims 23-40 under 35 U.S.C. § 103(a) as allegedly unpatentable over Ishiguro in view of Paskins and further in view of Abbott. Applicant respectfully traverses these rejections.

Independent claim 2 now recites, in part, the following subject matter: “all data sent over the dedicated encrypted virtual channel are encrypted” (emphasis added). Support for this subject matter may be found in the specification in, for example, paragraph [0050] of the published version of the pending application. Independent claims 1, 14, 15, 23, and 32 contain similar recitations.

Regarding this subject matter, one or more of the virtual channels for a serial communications interface may be configured as a “dedicated” encrypted virtual channel, as disclosed in paragraph [0034]. All data that flow through this channel are encrypted, for example, by direct signal paths between interface circuitry and encryption/decryption logic, as further disclosed in paragraph [0034]. While these data are encrypted, other data, such as setup data, control data, authorization data, and public keys, may be sent in either an encrypted or decrypted manner over another virtual channel, as disclosed in paragraph [0035].

On pages 5-6, the Office Action correctly concedes that Ishiguro has multiple deficiencies. In particular, the last paragraph on page 6 correctly concedes that Ishiguro does not teach a dedicated encrypted virtual channel. The Office Action then attempts to remedy this deficiency by applying the teachings of Abbott, relying upon line 61 of col. 8 through line 1 of col. 9 in Abbott. However, Applicant respectfully submits that Abbot does not provide a dedicated, encrypted, virtual channel that operates in the claimed manner.

While the cited section of Abbott does recite a “dedicated virtual channel,” Abbott does not disclose any use of encryption of any data with this channel. In contrast, all data in the claimed channel must be encrypted. Thus, Abbot does not disclose, suggest, or teach that “all data sent over the dedicated encrypted virtual channel are encrypted.”

Independent claim 2 further recites, in part, the following subject matter: “access control and decoding are separately performed on two integrated circuits for the dedicated encrypted virtual channel” (emphasis added). Support for this subject matter may be found in the specification in, for example, paragraph [0065]. Independent claims 1, 14, 15, 23, and 32 contain similar recitations.

The processor chip set uses a pair of integrated circuits [Fig. 6: 148/150], with the first integrated circuit [148] providing access control logic and the second integrated circuit [150] providing decoder logic, as disclosed in paragraph [0058]. The broadcast signal flows between the chips in an encrypted manner to protect the chip boundary between the integrated circuits [148/150], as further disclosed in paragraph [0058]. Sending that data stream over a dedicated, encrypted, virtual channel will ensure that this chip boundary remains secure, as disclosed in paragraph [0060]. As further disclosed in paragraph [0083], should a hacker compromise a given access control scheme, another control scheme could be substituted without requiring replacement of the set top box. Thus, the use of first and second integrated circuit is a significant improvement.

Applicant respectfully submits that because Abbott does not disclose, suggest, or teach an encrypted channel, Abbott cannot provide separate access control and decoding. Because Abbott lacks separate integrated circuits, Abbott does not show

that “access control and decoding are separately performed on two integrated circuits for the dedicated encrypted virtual channel.”

Paskins and Mowery also fail to disclose, suggest, or teach the subject matter now recited in independent claims 1, 2, 14, 15, 23, and 32. While Paskins may provide a demodulator [16: Fig. 1], a descrambler [18], and a demultiplexer [20], Paskins does not disclose, suggest, or teach that “access control and decoding are separately performed on two integrated circuits for the dedicated encrypted virtual channel.” Similarly, although Mowery may use PCI-Express, as disclosed in paragraph [0023] of Mowery, Mowery does not disclose, suggest, or teach that “access control and decoding are separately performed on two integrated circuits for the dedicated encrypted virtual channel.” Therefore, Applicant respectfully submits that claims 1, 2, 14, 15, 23, and 32 are allowable.

Claims 3-12 depend upon independent claim 2, claims 16-22 depend upon independent claim 15, claims 24-31 depend upon independent claim 23, and claims 33-40 depend upon independent claim 32. Thus, Applicant respectfully submits that claims 3-12, 16-22, 23-31, and 33-40 are allowable at least due to their respective dependencies upon allowable independent claims.

Therefore, Applicant respectfully requests withdrawal of the rejections of claims 1-12 and 14-40 under 35 U.S.C. § 103(a).

CONCLUSION

In view of the remarks above, Applicant believes that each of the rejections/objections has been overcome and the application is in condition for allowance. In the event that the fees submitted prove to be insufficient in connection with the filing of this paper, please charge our Deposit Account Number 50-0578 and please credit any excess fees to such Deposit Account. Should there be any remaining issues that could be readily addressed over the telephone; the Examiner is asked to contact the agent overseeing the application file, David Cordeiro, of NXP Corporation at (408) 474-9057.

Respectfully submitted,
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